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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/559,799	04/27/2000	Ai-Zhi Piao	T8275	2670

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EXAMINER

DEWITTY, ROBERT M

ART UNIT PAPER NUMBER

1616

DATE MAILED: 10/02/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/559,799

Applicant(s)

PIAO ET AL.

Examiner

Robert M DeWitty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 14-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAILED ACTION**

Claims 1-36 are pending in the instant application. Claims 14-36 have been withdrawn as being drawn to a non-elected species.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bromberg et al. (U.S. Pat. No. 5,939,485), and further in view of Sahatijian (U.S. Pat. No. 5,674,192).

Bromberg relates to polymer compositions which exhibit reversible gelation in response to a change in temperature or other environmental status. The compositions have improved stability over simple blends of the constituent polymers (col. 2, lines 57-62). The composition consists of a responsive polymer network made of a responsive component and a structural component. The responsive component typically possess regions of hydrophobic and hydrophilic character (col. 7, lines 15-20). Suitable responsive components include POP and POE, and triblock polymers such as Pluronic. At example 7, column 25, Bromberg teaches one block of the triblock composition having a molecular weight of 3250 and another block of the triblock composition having

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a molecular weight of over 5700. As established by Sahatjian et al. (U.S. Pat. No. 5,674,192), Pluronic F-127 is a biodegradable material (col. 3, lines 56-63).

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bromberg (U.S. Pat. No. 5,939,485), further in view of Rathi et al. (U.S. Pat. No. 6,004,573).

As stated above, Bromberg teaches polymer compositions which exhibit reversible gelation. The compositions consists of a responsive polymer network made of a responsive component and a structural component. Suitable responsive components include POP, and POE and triblock polymers such as Pluronic.

It is the examiner's position that one or more responsive components, including triblock polymers, may be used in the invention of Bromberg.

Rathi teaches water soluble biodegradable ABA or BAB-type triblock polymers for drug delivery systems. The triblock polymers are made up of a major amount of a hydrophobic polymer made of poly(lactide-co-glycolide) copolymer and a minor amount of a hydrophilic polyethylene glycol polymer (Abstract). The triblock copolymer drug delivery systems are biodegradable, exhibit reverse thermal gelation behaviour and provide good release characteristics. Rathi further states that Pluronics are not inherently useful as drug delivery systems, and that they lack critical characteristics

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necessary for control of drug release over a sustained period of time and present toxicity or biocompatibility issues owing to their "non-biodegradability" (col. 4, lines 42-53).

Motivation to utilize the triblock polymers of Rathí in the system of Bromberg would have arisen to address the concerns that the Pluronics of Bromberg lack critical characteristics and present toxicity or biocompatibility issues.

### ***Response to Arguments***

2. Based on Applicant's assertion that prior art Rathí (U.S. Pat. No. 6,117,949) is not a proper reference because it was commonly owned with the present application at the time the invention was made, the rejection under 35 U.S.C. 103 is withdrawn.

3. Applicant's arguments have been fully considered but they are not persuasive. Applicant asserts that the previous rejection under 103(a) is not proper because Bromberg does not anticipate the instant invention, namely Bromberg does not teach a triblock polymer that is biodegradable. However, as shown by the reference to Sahatjian et al. Pluronic F-127 is biodegradable. The United States Patent and Trademark Office does not have facilities for testing the physical or chemical nature of substances and thus must rely upon teaching references. As the reference to Sahatjian et al. defines a characteristic of Pluronic F-127, it is relied upon by the examiner to further understand Pluronics.

Applicant also asserts that Blomberg does not teach or suggest mixtures of

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triblock copolymers. However, it is taught that one or more of the responsive components (which include Pluronic triblocks) can be used in the responsive polymer network composition of the invention (col. 7, lines 51-53).

Thus the rejection is maintained.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert M DeWitty whose telephone number is 703-308-2411. The examiner can normally be reached on 9:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jose Dees can be reached on 703-308-4527. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7924 for regular communications and 703-308-7924 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

RMD

October 1, 2002

  
JOSE G. DEES  
SUPERVISORY PATENT EXAMINER

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